IMPERIAL BUREAU
15 AUG. 1923
OF MYCOLOGY

REPORT ON THE BOTANICAL AND FORESTRY DEPARTMENT FOR THE YEAR 1922.

General Remarks.

The first quarter was fairly dry and generally favourable to gardening operations, the rainfall amounted to 12·24 inches on 46 days.

During the second quarter the rainfall amounted to 15·41 inches on 52 days, this was again favourable to gardening operations but forestry operations which are spread over large areas, were slightly delayed.

The rainfall during the third quarter was moderate and amounted to 46·99 inches on 56 days.

Slight frost was experienced at Fan Ling and Sheung Shui on November 27th and 28th, a large proportion of young and old flowering plants, shrubs, fruit trees and young vegetables were to some extent damaged.

The plants of Banana in the Experimental Garden at Sheung Shui appeared to suffer severely from the frost, though fortunately the fruit was practically uninjured. Almost the whole of the leaves later turned black and died off.

Reports were received from the Peak district of damage to young vegetables and flowers owing to the very low temperature experienced on November 27th and 28th.

During the fourth quarter only 4·57 inches of rain fell on 20 days, which necessitated continuous watering of the flower beds, trees and plants generally in the gardens and various other grounds under the control of the Department. In addition large numbers of young roadside trees had to be watered. The rain which fell during the third week of December undoubtedly saved a large number of such trees in the outlying districts from dying out.

Typhoon signals were hoisted five times during the year.

No serious damage was caused by the high winds and rainstorms, except that almost all the young roadside trees in exposed positions between Tsun Wan and Castle Peak were blown down on more than one occasion, but by means of a daily inspection and immediate restaking the majority of these were saved.

Botanic Gardens.—In both Old and New Gardens the Blue Grass under trees and in damp situations where turf cannot be used, was lifted, divided and replanted.

The old Poinsettias in the circular bed adjoining the Aviary were taken up and destroyed, another stock of plants was put in after the bed had been put into good order generally.

During March the fountain basin was given the usual annual cleaning and the aquatic plants were taken out and repotted before being replaced.

All rockeries in both gardens were overhauled and all vacant spaces planted with ferns and a general collection of foliage plants.

On a grass bank near the plant houses in the Old Garden a specimen of *Bougainvillea spectabilis*, var. *lateritia* was damaged during a storm and later died.

A number of plants of *Ixora coccinea* were added to the small group of this slow growing but showy flowering plant, on a grass bank near the plant houses in the Old Garden.

Most of the pot plants in the plant houses were repotted, re-arranged and all were put into good order generally, the foliage plants in the rockery at one end of the houses were lifted, divided and replanted.

At the east end of the lower terrace in the Old Garden a rockery planted with a collection of Agave, Opuntia, Cacti, Sansevierias and Alpinias was cleared of a portion of two lastnamed, which had overgrown most of the other plants.

The plants of *Hibiscus Lambertianus* which line the Garden Road boundary wall have now become well established ; they were given two hard prunings during the year.

A small bed immediately inside the Albany entrance was cleared of old plants of *Jasminum Sambac*, these were replaced by young plants of Poinsettia.

The Annual Show of the Hongkong Horticultural Society was held in the Botanic Gardens on March 2nd. Exhibits of fruit, flowers and vegetables were good and entries were numerous but visitors to the show were very few in number owing to labour troubles.

The grass lawns on the Upper and Lower Terraces in the Old Garden were treated with " Cha Chai " during heavy rain in order to bring out the earthworms, of which some 200 pounds, much less than the preceding year, were caught and destroyed.

During October, Roses in beds were given a heavy dressing of stable manure and young plants were put in to replace failures.

Beds on the lower terrace were planted with a succession of English summer-flowering annuals during the winter and with a succession of mostly native plants during the summer.

The weed known as *Elephantopus scaber* which makes its appearance in and soon damages turf, was unusually plentiful this year; its destruction entailed much work in both gardens.

The whole of the stock of Bamboo Palms (*Chrysalidocarpus lutescens*) in the Loan Plant Compound and elsewhere in both gardens was divided and repotted during April.

All Canna beds were emptied and replanted after the ground had been thoroughly dug and heavily manured.

The total number of plants sold during the year was 1, 400, of these 785 were the ordinary Maiden-hair Ferns (*Adiantum cuneatum*). As usual there was a steady demand for Bamboo Palms, but none could be sold owing to the large number required for planting in Government House Grounds, the gardens and elsewhere.

All old flower stems were continuously cut out of plants of Alpinias in both gardens and the Glenealy Rockeries.

An old and somewhat ragged plant of *Pittosporum Tobira* on the grass bank adjoining the steps below the fountain was removed and the space turfed and a group of young specimens of *Brunfelsia undulata* planted; on the opposite bank a group of young plants of *Ixora chinensis* was planted.

Seeds of "Jak" (*Artocarpus integrifolia*) were collected from the two specimen trees in the gardens and young specimens were raised for use as roadside trees.

Large numbers of seedlings, cuttings of various shrubs and creepers and layers of Roses, *Bauhinia Blakeana*, Bougainvillea and Brunfelsias were raised in the Pot Nursery for departmental use and for sale.

Small areas of ground where the grass had become worn were returfed and bare ground under a number of large trees was planted with Blue Grass.

The tree of *Spathodea nilotica* in the New Garden flowered fairly well, but the specimen in the Old Garden did not produce flowers this year.

The Amaryllis in beds near the big Banian and below the Aviary produced a very fine show of flowers, both beds were given a heavy dressing of manure during February.

The only specimen of *Cinnamomum Burmanni* was badly damaged by the breaking of a very large limb during a storm, the tree was as far as possible repaired by the use of cement but as it stands close to a walk and several seats the remaining large limbs will need to be removed before the approach of the typhoon season.

Young trees in both gardens were re-staked and retied several times during the year, during the dry season the soil about them was continuously loosened.

A number of permits were issued to artists to paint and to residents to take group photographs in both gardens.

Three persons were prosecuted and convicted during the year for disorderly conduct in the gardens.

Government House Grounds.—Hedges of Bamboo Palms were planted on the small banks to the east and west of the grass tennis courts, and between the servants' quarters and the Chunam tennis courts, in addition to acting as screens these have much improved the general appearance of the grounds.

The bank under the hedge of *Viburnum odoratissimum* was cleared of all wild shrubs and grass and replanted with Blue Grass.

Vacant ground on both sides of the new motor approach road was planted with Cannas and several varieties of flowering shrubs.

On the open ground between the stables and the Custodian's quarters a line of Aleurites and a hedge of *Hibiscus Lambertianus* were planted; in addition three beds were formed and planted with the following, *Cassia fistula*, *Gardenia florida*, *Hydrangea hortensia*, *Plumbago capensis*, *Tabernaemontana coronaria*, *Rondeletia speciosa*, *Cestrum aurantiacum*, *Rhododendron indicum*, *Hypericum chinense* and *Allamanda Schottii*.

Two large Banians in front of the house were given a very hard pruning in order to give the turf below them a larger amount of light and air; one Banian and one Eugenia near the servants' quarters were similarly treated.

Bare patches of ground under flowering and other ornamental trees were planted with Blue Grass.

Both lawns were dressed with "Cha Chai" during wet weather and large numbers of earth-worms driven to the surface were collected and destroyed.

"Grass Caterpillars" made their appearance in small numbers on both lawns during October, the grass was immediately treated with the usual solution of Jeye's Fluid which had the effect of destroying most of the caterpillars. These insects often leave bad "scars" in the grass, necessitating a heavy dressing of sifted manure and soil.

The interior of the house was decorated with flowering plants, Palms and hanging baskets of flowers during the visit of H.R.H. the Prince of Wales in April and on the occasion of the birthday of H.M. the King on June 3rd similar decorations were carried out on the occasions of dances on September 14th and October 18th and 30th.

The replanting of Cannas and the pruning of flowering trees and shrubs was carried on as required throughout the year.

Mountain Lodge Grounds.—Cannas in the bed below the retaining wall and elsewhere were taken up, divided and replanted after the ground had been dug and manured.

Undergrowth and long grass near the house and in the valley was cleared during May ; the continual cutting of long grass in the valley has had a beneficial effect on the very highly coloured flowering plant known as *Torenia concolor*, which has now firmly established itself in and is rapidly spreading over the turf in the valley.

Ficus creepers on the large retaining and other walls were clipped as required, those on the mound below the flagstaff are making very slow progress owing to the exposesd position in which they are planted.

All grass lawns and putting greens were regularly machined, rolled, weeded and given a dressing of finely-sifted stable manure.

Blake Garden.—To prevent damage to turf and Blue Grass in the valley, several strong barbed wire fences were erected.

Plants in the Agave hedges which had flowered were removed and replaced with young specimens.

Large numbers of people drew their supplies of water from the small springs in the garden, during the time of the water shortage ; in normal times this practice is not allowed owing to the unavoidable damage to the turf and plants.

The garden is used by increasing numbers of people each year and more space is badly needed ; when a sufficient quantity of soil from adjoining building sites is available, a further section of the valley will be filled and levelled.

King's Park.—All the young flowering and other trees were regularly retied and staked and the older specimens pruned ; the specimens of *Bauhinia variegata* have now become well established and made a fine show while in flower.

Continuous undergrowth clearing has got rid of most of the seedling plants of Lantana and Mimosa ; this clearing was again carried out by gangs of women working under the supervision of the Park Keeper, all grass or undergrowth cut by members of the gangs was taken in lieu of payment and used as cattle fodder or fuel.

The Pines seem to be affected by the dust from an adjoining cement factory, while other and more hardy trees suffer very little ; all Pines which died out during the year were felled and removed.

Two persons were arrested and convicted for stealing parts of trees growing in the Park.

Colonial Cemetery.—A large number of coniferous trees, Palms and a small number of large shrubs which were on graves and were damaging headstones, were removed.

Old graves and open spaces under trees where turf will not grow, were planted with Blue Grass, all new graves were turfed and kept in good order generally.

Long grass and seedling trees in all parts of the cemetery were regularly cut during the summer months.

Beds and borders were planted with summer and winter annuals.

All flowering trees, shrubs and foliage plants were pruned as required and a small number was taken up and replanted in spaces not required for graves.

The new quarters for the gardeners on the terrace above the plant houses were completed and occupied during June.

Other Grounds.—In the compound of St. John's Cathedral the bare banks were planted with Palms, Ferns and Blue Grass.

The tennis lawns at the Island Quarters, Taipo, were machined, rolled, weeded and top-dressed with fine manure. Undergrowth on the banks was cleared twice during the year. Seedling annuals were raised for use as pot plants and in beds.

In the Civil Hospital Grounds a small number of Poinsettias was added to the group already planted on the bank below the Pine trees. Beds of Blue Grass which had suffered from the drought were lifted and replanted. All tennis lawns were regularly rolled, machined and weeded; those requiring it were dressed with "Cha Chai" in order to keep down earth-worms. Large numbers of seedling annuals were raised for use as pot plants and in beds. Bamboo hedges and creepers on retaining walls were pruned several times during the year. Pot plants on the verandahs of the Sisters' Quarters were renewed as required.

In the grounds of the Lunatic Asylum a regular supply of pot plants was maintained and the grass plots and banks kept in good order generally.

The grounds of the Senior Officers' Quarters, Leighton Hill were placed under the control of this Department during March; the lawns were weeded, machined and rolled and the banks and small grass plots kept in good order generally.

At the Cricket Ground, the area used as a playing pitch was repaired each week. A large area of turf where a slight subsidence has taken place, was lifted and after more soil had been added and levelled, was relaid. The whole playing pitch was regularly machined, weeded and top-dressed with fine manure; this work was carried out at the expense of the Hongkong Cricket Club.

The grass lawn at the Subordinate Officers' Quarters, Breezy Point, was kept in good order generally ; during the latter part of the year this space was taken over and a cement tennis court laid by the Public Works Department.

In West End Park, the Camphor and other trees were several times given a dressing of Carbolineum to keep down the White Ants, which do extensive damage during the dry months. The barbed wire fences were repaired as required and the whole Park cleared of undergrowth twice during the year.

The turf at the Volunteer Parade Ground was regularly cut and kept in good order generally throughout the year. The Privet hedges were clipped and all flowers removed before opening. A number of Palms, a large portion of a Privet hedge and an area of turf were removed in connection with the building of a miniature rifle range.

In the grounds of the Royal Observatory the flowering trees, shrubs and foliage plants were pruned and retied. The bare ground under the Pine trees was planted with Blue Grass. Large numbers of seedling annuals were supplied for use as pot plants and in beds, from the Botanic Gardens. The whole of the grounds was kept clear of undergrowth throughout the year.

The grass plots and trees in the Children's Playground, Kowloon, were kept in good order generally by the gardener stationed at the Royal Observatory.

At the Victoria Hospital the garden was kept in good order generally ; the grass plots were machined and weeded and Ficus on the retaining wall was clipped when required.

The grass lawns at the Government Pavilions and Government Villas were regularly cut, rolled and weeded ; long grass on banks was cut and the small number of shrubs were given any required attention.

In the Lower Albany Nursery a supply of cut flowers was maintained and a succession of seedlings, cuttings and layers raised for use in the Botanic Gardens and elsewhere.

The lower and best portion of this nursery was allotted to the Helena May Institute during December, consequently most of those plants which could be moved without damage were replanted in the Botanic Gardens and elsewhere ; the loss of this piece of ground has very much cut down the area of ground available for general nursery work and steps will have to be taken in the near future to secure and lay out another suitable area.

In the Helena May Institute Grounds all trees, shrubs and grass plots were kept in good order generally ; this work was carried out at the expense of the Institute.

The Upper Albany Nursery was used for maintaining a supply of cut flowers and for general nursery work.

At the Sukunpo Vegetable Garden a succession of winter and summer vegetables was grown and supplied to Government House daily.

Blake Pier was decorated with Palms and other foliage plants on the occasion of the visit of H.R.H. the Prince of Wales on April 6th.

H.R.H. the Prince of Wales' Pavilion was extensively decorated with Palms and other foliage plants on April 6th.

In Statue Square Garden a number of plants were removed to make room for stands erected in connection with H.R.H. the Prince of Wales' visit.

Herbarium.

The whole of the plant specimens were inspected, repoisoned and sun-dried.

A hundred and one sheets of new Australian specimens and a small number collected locally were mounted.

Specimens of local plants were identified when brought in by visitors to the Colony or local collectors.

A large number of specimens of Chinese druggists medicinal herbs were forwarded by the Department of Agriculture, Vancouver, these were all identified and named and all available information concerning the specimens forwarded to the Department mentioned.

Forestry.

Formation of Pine Tree Plantations.—On the hills adjoining Tai Wo Po, 5,000 one year old trees of *Pinus Massoniana* were planted as an addition to the existing Plantation No. 9A.

Owing to the increasing difficulty of obtaining suitable nursery ground south of the Kowloon Range, the yearly number of one year old Pine seedling raised and planted out is being rapidly reduced ; new Pine plantations are now mainly formed by the sowing of Pine seeds broadcast and in situ.

Pine seeds were sown in situ at the following places, 16,590 at 5A Little Hongkong, 3,470 at 7G Mount Davis, 59,725 at 7C Ngau Chi Wan and 49,670 at Tytam Tuk.

On turfed banks below the Taipo and Tsun Wan Roads 40 lbs. of Pine seeds were sown broadcast.

46 lbs. of Pine seeds were used for replacing failures of seed sown in situ at Cheung Chau, Cheung Sha Wan and Fan Ling.

167 one year old trees of *Pinus Massoniana* were planted as an addition to the small plantation at the Water Police Station, Tsim Sha Tsui.

Broad-leaved Trees Planted.—A number of trees of *Aleurites montana* were tried for the first time as a shade tree in Salisbury Road, Kowloon.

10 large specimens of *Aleurites triloba* were taken up from the middle of and replanted at the side of the widened portion of Salisbury Road, all the trees, some of which had reached a height of 30 feet fortunately survived.

Four large Banian cuttings were planted near the Public Dispensary, Yaumati.

The shade and flowering trees used for roadside planting were *Melia Azedarach*, *Bischofia javanica*, *Ficus infectoria*, *Cassia fistula*, *Tristania conferta*, *Aleurites triloba*, *Albizzia Lebbek*, *Poinciana regia*, *Erythrina indica*, *Bauhinia variegata*, *Paulownia Fortunei*, *Celtis sinensis*, *Melaleuca Leucadendron* and *Cinnamomum Camphora*; these were made use of in the following positions Wong-Nei-Chong Gap Road 233, Wong-Nei-Chong Gap to Deep Water Bay 358, Magazine Gap Road 247, Wanchai Gap Road 571, Severn Road 32, Lugard Road 47, Garden Road 3, Peace Avenue, Ho Mun Tin 72, Argyle Street 72, Jordan Road 45, Gascoigne Road 97, Chatham Road 106, Lai Chi Kok Road 30, Nathan Road 3, Reclamation Street 7, Taipo Road 290, Fan Ling Road 8, Au Tau Road 87, and in the vicinity of Shum Shui Po Market 22.

The following trees and shrubs were planted in Stanley Military Cemetery, 3 Banian cuttings 16 *Aleurites triloba* 2 *Erythrina indica* and 6 *Allamanda Schottii*.

79 one year old trees of "Jak" (*Artocarpus integrifolia*) were planted in the vicinity of Aberdeen Reservoir.

Trees Removed.—In connection with the sale of building lots, formation of new and widening of existing roads, reclamations and other public works very large numbers of Pine and wild trees and a small number of large roadside trees were removed.

A number of very fine specimens of *Pinus Massoniana*, probably the largest on the Island were removed from the site of the new Queen's College at Sukunpo.

Trees were removed from the following roads, Bonham Road, Victoria Road, Kennedy Road, Pokfulum Road, Repulse Bay Road, Queen's Road East and Central, Taipo Road and Wong-Nei-Chong Road, these removals were due to road widening and alterations in connection with the increased motor traffic, with the exception of Queen's Road East and Central, young trees will be planted in all the roads mentioned to as far as possible replace those removed.

At Lai Chi Kok and Fo Pang Hang large numbers of *Pinus Massoniana* were removed to allow for the removal of soil for reclamati n work and for the formation of a cemetery.

The most noticeable of the tree fellings on the Island during the year has been that on Morrison Hill where large sections of native trees have been removed to allow for the removal of rocks and soil in connection with harbour reclamation work.

The felling of trees by the contractor at Little Hongkong forest was much delayed owing to labour troubles and most of the work carried out by him was confined to the felling of badly-shaped or damaged trees, the majority of which were made use of as firewood or for conversion into charcoal.

Care of Trees in Plantations.—A regular inspection of all planted and native trees was carried out throughout the year. Dead or badly-damaged trees were removed as required and large trees on slopes near public roads and paths and which were regarded as dangerous, were either removed or given a very hard pruning.

Pine Tree Caterpillars fortunately made their appearance only in very small numbers on the Island and in Kowloon ; one plantation adjoining Fan Ling Golf Course was badly infested with these pests and as soon as they could be detected all were collected and destroyed, the total weight of those dealt with being 4,667 lbs.

Loranthus and creepers were regularly removed from trees on roadsides and in plantations.

Camphor trees, a large percentage of which are regularly attacked by White Ants during the dry season, were treated with Carbolineum.

The Forest Guards made numerous arrests of persons felling or doing damage to growing trees and destroying of wild flowers.

Cases of persons collecting Pine needles from plantations were very numerous and the offenders, who do considerable and lasting damage, are not easily deterred by the comparatively light fines which are inflicted.

Protection from Fire.—During the year 20 miles of fire-barriers were cleared in the New Territories, Southern District, 17 miles in Hongkong and 2½ miles at Fan Ling ; these barriers on many occasions proved most useful in checking large fires until they could be beaten out.

Five fires broke out in plantations during the first quarter, 13 in the second, 1 in the third and 32 in the fourth, making a total of 51 compared with 67 in the previous year.

No trace could be found in any case of the origin of the fires and it can only be supposed that the majority were due to people dropping lighted matches or tobacco and by the careless use of sacrificial paper and fire-crackers by grave-worshippers.

The most serious of all the fires broke out at night in plantation 9B adjoining the Sai Kung Road, where 700 large Pines were killed.

The thanks of the Department are due to the Captain Superintendent of Police for allowing officers in charge of outlying stations to engage coolies and deal with numerous forest fires which broke out at night.

The Tsing Ming Festival was on April 5th and fortunately there was a light drizzly rain falling during part of the day, this had the effect of damping all grass in and around hill graves and cemeteries and so preventing a single fire from breaking out.

The Chung Yeung Festival was on October 28th and eleven small fires, all resulting from careless use of fire-crackers or sacrificial paper, were beaten out before they could spread to adjoining plantations.

The whole of the forestry staff assisted by District Watchmen and 150 extra coolies were on watch the whole day in cemeteries and plantations adjoining those cemeteries where most of the worshipping is carried on.

The thanks of the Department are due to the Honourable the Secretary for Chinese Affairs for lending 10 District Watchmen to assist in watching for and dealing with fires at both the Tsing Ming and Chung Yeung Festivals.

Forest Guards Service.—The total number of persons arrested or proceeded against by summons was 335 as compared with 287 during the previous year; of this number 280 were convicted, 27 cautioned, 7 discharged, 10 had their bail estreated and 11 were required to find a personal bond.

Particulars of these Cases are given in Tables II and III.

In two cases of damage to native Camphor trees by persons gathering very large quantities of the branches, leaves and twigs for the purpose of distilling Camphor, action was taken by this Department and the Police Officers of the districts concerned. as a result the two offenders appeared before the District Officer, North and each was fined $248 with the option of $2\frac{1}{2}$ months' imprisonment.

A close watch was maintained the three weeks preceding Chinese New Year, on all districts where the Chinese New Year Flower (*Enkianthus quinqueflorus*) is found; a number of persons were arrested while cutting growing plants, but the total amount of damage done was much less than in former years.

During the labour trouble in March, when only very small and inadequate supplies of firewood were arriving in the Colony from the usual sources, a considerable amount of damage was done to Pine plantations, native trees and protected forest areas by persons

living in the more thickly populated town areas where no firewood could be obtained, the offenders were so numerous that the Forest Guards had to abandon all attempts at arrest and were engaged for several days in driving offenders of both sexes out of the more valuable plantations into areas where the damage would not have a very serious or lasting effect.

Three building contractors who were responsible for damage to roadside trees or plantations had sums amounting to $100 deducted from their securities; this amount was credited to Timber Sales.

An inquiry, under Ordinance No. 6 of 1917 was held by the District Officer, South, and the Superintendent, at Sheung Li Uk village owing to the illicit cutting of Pine trees in the closely adjoining plantations; a fine of $30 was later inflicted on the village.

Miscellaneous Planting.—34 young *Hibiscus Lambertianus* were planted in Pei Ho Street, Shum Shui Po.

825 *Ficus repens* were planted to cover the bare cuttings on either side of the new motor road to the Peak, above the cemeteries.

The following were planted on Crown Land above Barker Road, 56 *Rhododendron indicum*, 26 *Allamanda Schottii*, 26 *Plumbago capensis*, 49 *Hydrangea hortensia* and a small number of *Ixora chinensis*.

On Crown Land near the Rest House, Taipo, the following were planted 20 *Hibiscus Lambertianus*, 50 *Callistemon rigidus* and 1 *Bauhinia Blakeana*.

Flowering trees or shrubs on the low hills near Fan Ling Golf Course, planted and maintained by this Department, were in many cases thinned out and others which were hidden by the fast growing Pine plantations were taken up and planted elsewhere.

Roadside plots and rockeries were kept in good order generally and trees or shrubs which had failed were replaced.

A vacant plot of land adjoining Peak Road, between Mountain Lodge and the Peak Tram Station was cleared of undergrowth and planted with an assortment of flowering trees and shrubs.

The following trees were planted on Cheung Chau, 59 *Eucalyptus tereticornis*, 60 *Tristania conferta* and 20 *Melia Azedarach*; the large numbers of roadside and other trees planted in previous years were regularly inspected and kept in good order generally by the Forester stationed on the island.

At the Police Headquarters a flower bed was formed at each end of the compound and planted with an assortment of flowering shrubs and Blue Grass.

Four *Bauhinia Blakeana* and 8 *Lagerstroemia indica* were planted on small grass plots and banks on either side of Bowen Road.

A small number of flowering plants were put in at Stanley Military Cemetery and those planted during previous years were retied, staked and kept in good order generally.

The Old and New Protestant and Meesenberg Hill Cemeteries at Macao were cleared of all wild trees, shrubs and long grass and all the planted trees were given a thorough pruning; a number of areas under the largest trees were planted with Blue Grass.

After this work was completed the three cemeteries were planted with a number of shade and flowering trees, shrubs and creepers totalling 202, the following were the plants used, *Bauhinia variegata* 8, *Aleurites triloba* 4, *Lagerstroemia indica* 4, *Cassia fistula* 1, *Brunfelsia Hopeana* 1, *Bauhinia Blakeana* 5, *Allamanda Schottii* 7, *Brunfelsia ramosissima* 6, *Hibiscus Lambertianus* 15, *Poinciana regia* 5, *Gardenia florida* 3, *Rondeletia speciosa* 3, *Ficus repens* 140.

Forestry Service Paths.—All these paths were cleared of undergrowth and repaired in places where damage from heavy rain or landslides had occurred.

Anti-Malarial Undergrowth Clearing.—This work was carried on throughout the year in all districts, the total area cleared amounting to 8,340,610 square feet as against 3,400,000 during the previous year.

In addition to the grass, a large proportion of the undergrowth cleared consisted of hard-wooded shrubs which will not require to to be cleared again for some years.

Clearing for Survey Purpose.—In connection with the cutting of lines for survey purposes, lines of new roads and other improvements, proposed building sites a total area of 3,990,000 square feet of undergrowth was cleared for the Public Works Department.

Forestry Licences, New Territories.—The total amount of fees collected during the year amounted to $4,831.87 compared with $4,880.47 in 1921.

NURSERIES, AGRICULTURE, &C.

Beacon Hill Nursery.—Seeds of the following trees were planted for the propagation of stock for use during the following year, *Poinciana regia, Albizzia Lebbek, Celtis sinensis, Pinus Massoniana, Uvaria calamistrata, Garcinia oblongifolia, Aleurites montana, Aleurites Fordii* and *Aleurites triloba*.

5,000 Camphor trees were raised in the new nursery at Little Hongkong. these will be used for re-planting on the site of the adjoining old forest, which is composed of trees of little value and which are now being felled and removed.

300 pounds of seed of *Pinus Massoniana* and 65 pounds of Camphor seed were collected during the year.

Fan Ling Experimental Garden.—A further portion of this garden, which stands on the site of old Padi land, was levelled, terraced and the required new channels and paths made.

58 plants of "Hill Mangosteen" *Garcinia oblongifolia* were collected from Wong Nei Chong and planted in the garden, these trees in their natural state bear a heavy crop of small fruits which find a ready sale among the natives; it is possible that the fruit may increase in size and quality if grown under good conditions for a few years.

Onion seed, obtained direct from Teneriffe, was sown and produced a heavy crop of Onions of good quality; this crop is always watched and discussed with great interest by the natives of adjoining villages, but up to the present nobody has undertaken the growing of Onions on anything but a very small scale.

A crop of Tobacco was grown and after being harvested was removed to the Botanic Gardens for use as an insecticide.

1,000 young plants of the improved variety of Pineapple known as "Smooth Cayenne" were procured from Honolulu and planted in a temporary bed; the old plants of this variety continue to produce large fruit of excellent flavour and quality generally.

With a view to encouraging the growing of vegetables in the New Territories, a plot of land adjoining the school at Tai Wai was partly laid out and planted with Onion seed by the scholars assisted by employees of this Department, this is the first attempt at formation of school gardens and a fair amount of interest appeared to be taken in the experiment by the schoolmaster and his scholars.

The Custard Apples (*Anona reticulata*) produced a good crop of fruit of good size and quality.

The Bananas suffered somewhat from the drought and had to be watered heavily daily throughout the driest months of the year, also during these months a proportion of the fair crop of fruit was split and scorched by the heat of the sun.

A number of consignments of fruits from the "Banian" (*Ficus retusa*) containing "Fig Wasps" were supplied to the Entomologist, Forestry Department, Honolulu, these insects are liberated among the wild trees of Ficus there, with the object of securing the fertilization of the flowers and consequent natural growth of young trees in the reservoir catchment areas.

The annual inspection of all bulbs of *Narcissus Tazetta* intended for export to the United States of America and Honolulu was carried out by the Department from July to October; during these months a total of 885,000 bulbs contained in 6,996 packages were inspected and certified.

The bulbs were in excellent condition generally and only one consignment was found to be infected with a fungoid disease and detained for reconditioning.

Destruction of Privet (Ligustrum sinense.)

In addition to the removal of flowers from this plant, which is widely credited with being one of the chief causes of "Hay Fever," the gradual destruction of the whole plant was commenced in the Peak district, where it grows more strongly and in greater number than anywhere on the Island.

If given opportunity this plant quickly assumes tree form and in a few years grows to a height of 30 feet or more.

Exchange of Seeds, &c.

The Department is indebted to the following donors of seeds and plants; Director Jardin D'Acclimatation, "Les Tropiques", France; Mr. E. H. Wilson, Harvard University; Director, Royal Botanic Gardens, Kew; Professor of Agronomy, College of Agriculture, Los Banos; Mr. H, Nehrling, Palm Cottage Gardens, Florida, U. S. A.; Mr. H. H. Corbin, Department of Forestry of University, Adelaide; Superintendent, Botanic Gardens, Sibpur, Calcutta; Messrs. A. E. Bullock; A. J. Thornton & N. L. Watson and Father Augustine.

The following were the principal recipients:—Dr. David Fairchild, U. S. Department of Agriculture, Washington; Director, Department of Agriculture, Peradeniya, Ceylon; Director, Botanic Gardens, Sydney; Director of Agriculture, Nairobi, Kenya Colony, East Africa; Director of Agriculture, Amoni, Tanganyika Territory, East Africa; Assistant Professor of Botany, University of Manitoba, Winnipeg; Commander Beckwith; Dr. Kew; Sir Robert Ho Tung; Inspector Taylor; President, St. Andrew's Society; Inspector Blackman; Rev. T. H. Raussaw; Queen's College; Hongkong Golf Club; Hung Hom Police Station; Civil Service Cricket Club; St. Francis Church; Italian Convent; H. M. S. "Titania"; H. M. Submarines; R. A. O. Corps; Mrs. T. H. King; Miss L. K. Rayner; Miss Elliott; and Messrs. R. A. Gubbay; D. Burlingham; Tedbar Johnson; A. E. Bullock;, E. A. Irving; A. N. Taylor; H. Nehrling, Florida, U. S. A.; Wu Shun; Ho Kam Tong; W. J. Kerr; Hau Chan; Kam Leung; Hau Yin; H. B. Mould; Hau Shui; Kan Yiu; A. Dyer Ball; J. M. Alves; H. T. Jackman; W. E. Hollands; L. D. Higgins; Sin Chung Sang; D. D. Berth; N. L. Smith; J. William:

Staff.

Mr. A. J. Thornton was appointed to the vacant post of Assistant Superintendent on April 22nd.

The Head Forester, Mr. Wong Shing-po, resigned on May, 31st and the New Territories Foreman, Mr. Li Kam-fuk was appointed to fill the vacancy.

H. GREEN,
Superintendent.

April, 1923.

Table I.

RAINFALL, 1922.

Botanic Gardens.

Date.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	inch.	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*
1,	...	.01	...	.04	.03	...	...	...	.83	...	...	...
2,	.04	.12	...	...	.63	...	...	.32	.38	...	...	...
3,	.01	.03	...	.01	.55	...	...	1.37	.65	.14	...	.01
4,	.01	...	.38	...	.03	...	...	.12	.61	.88	...	...
5,	...	...	.48	...	.05	...	.06	...	...	.01	...	.02
6,	...	...	.03	...	...	.07	...	.03	...	...	...	...
7,	...	.04	.07	...	.03	.39	.19	.40	...	...	...	...
8,	...	...	...	.04	...	...	4.18	...	...	...	.04	...
9,	...	...	...	...	.14	.04	.29	.03	.04	.24	...	...
10,	...	.03	...	.03	.13	.98	2.05	.66	.03	...	...	...
11,	...	.02	...	...	.01	...	.56	.69	.01	...	...	...
12,	...	.47	...	...	.10	.04	2.65	...	.05	...	...	...
13,	.21	.44	...	...	...	.10	3.00	.51	.45	...	...	...
14,	...	.16	...	...	...	.34	.01	.01	.66	...	...	...
15,	.02	1.17	...	...	1.42	.05	...	.92	.25	...	...	...
16,	.02	...	...	...	.20	...	...	1.18	...	...	...	...

Table I,—*Continued.*

Date.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	inch.	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*	*inch.*
17,	.12	...	...	...	...	.01	...	...	...	...	...	.25
18,	.05	1.80	...	...	...	.01	...	.07	...	.96	...	.69
19,	.11	.53	...	...	...	.21	.16	...	.01	.12	...	...
20,	.03	...	...	...	.02	3.54	.41	.03	3.23	.38	...	.03
21,	.05	.02	...	...	.72	.69	...	1.21	1.28	.04	...	...
22,	.04	...	...	.01	.37	.04	...	.18	.03	.01	...	...
23,	.03	.05	.01	...	.02	...	...	2.45	...	...	.22	...
24,	...	.11	.02	...	.07	.04	...	.29	...	.05	.38	...
25,	...	...	.10	.27	.30	.05	...	.34	...	...	...	...
26,	.12	...	1.05	.35	.01	...	.09	.53	...	.09	...	.01
27,	.83	.49	1.80	.15	.02	...	1.48	.95	...	...	...	...
28,	.13	...	.83	1.20	.04	.33	2.21	2.15		...	...	...
29,	...	...	.01	.17	.01	.27	.96	1.79	...	...	...	...
30,	.02	...	...	.07	.97	...	.03	2.17	...	...	...	...
31,	.11	...	.02	...	...	...	...	1.75	...	...	...	...
Total,	1.95	5.49	4.80	2.34	5.87	7.20	18.33	20.15	8.51	2.92	.64	1.01

Total for the year 79·21 inches. Average for the last ten years at the Botanic Gardens—94·82 inches.
Total rainfall registered at the Hongkong Observatory for the year—69·44 inches.

Table II.

FOREST GUARDS' SERVICE: OFFENCES.

REPORT OF

Village or District.	Block.	Compartment.	Pine tree stealing.	Pine tree branch stealing.	Pine tree needle stealing.	Pine cone stealing.	Brush-wood stealing.	Grass cutting.	Wild flower stealing.	Bamboo stealing.	Turf stealing.	Fern stealing.	Cattle grazing in plantation.	Assault on Forest Guard.	Releasing prisoner from custody of Forest Guard.	Offering Bribe to Forest Guard.
Victoria, ...	1	A.F.G.	2	4	...	...	9	...	3	...	...	...	...	...	...	...
Wongneichong, ...	2	A.B.C.D.G.	4	15	8	...	25	1	1	1	...	...	...	...	...	1
Shaukiwan,.....	3	AB.C.D.E.F.G.	31	11	...	...	31	...	...	...	...	...	3	...	...	...
Tytam,.....	4	I.	...	...	...	...	1	...	...	...	...	...	...			..
Stanley,.....	5	A.C.F.	3	...	...	...	3	...			...				..	...
Aberdeen, ...	6	A.B.C.D.E.F.G.	7	2	...	...	23	1	...	...	...	...	...	...	...	...
Pokfulam,.....	7	A.B.C.D.G.	2	2	...	...	4	1	...	23			..		...	..
Kowloon,.....	8	A.[a]	...	2	...	...	...	...	...	...	...	...			...	..
Harbour Belt,.....	9	A.B.C.	13	42	27	1	2	9	...	...	2	...				
Cheungshawan, ...	10										...	...				..
Kanghau, ...	11	...	...	...	...	...	2	...	...	...	...	...	...	..		..
New Territories, ...	12	...	2	9	...	...	...	2	...	...	...	...	...	...	...	...
		Total for 1922,...	64	87	35	1	100	14	4	24	2	...	3	...	...	1
		Total for 1921,...	33	70	27	...	93	35	17	...	...	3	2	4	3	..

Table III.

POLICE COURT RESULTS.

Cases.	*1922.*	*1921.*
50 cents to $1 fine,	38	45
$1.50 to $2 „	23	43
$2.50 to $3 „	39	32
$4 to $5 „	70	41
$6 to $10 „	9	7
$11 to $25 „	2	1
$50 „	—	1
1 to 4 days' imprisonment,	17	18
5 to 7 „ „	33	38
8 to 14 „ „	37	19
3 weeks' „	7	3
4 „ „	4	—
1 month's „	1	2
6 weeks' „	—	2
Discharges,	7	5
Cautions,	27	20
Forfeiture of Bail,	10	8
Personal Bond,	11	2
Total,	335	287

Table IV.

NURSERIES.

Locality.	*Expenses.*
Kowloon Tsai,	$ 993.00
Fanling,	624.50
Little Hongkong Old Village,	729.60
	$2,347.10

Table V.

REVENUE.

Revenue.	1922.	1921.
	$ c.	$ c.
Timber Sales,	5,238.52	3,677.25
Sale of Plants,	766.03	708.00
Loan of Plants,	748.58	579.24
Forestry Licences,	4,831.87	4,800.47
Inspection of Nursery Stock,	740.00	850.00
Interest on Current Accounts,	4.48	2.13
Miscellaneous Receipts,	7.37	13.56
Forfeiture,	100.00	—
Fine Fund,	27.47	27.21
Total,	12,464.32	10,657.86

Table VI.

Comparative Statement of Revenue and Expenditure for the years 1913-1922.

Year.	Total Expenditure.	Total Revenue.	% of Revenue to Expenditure.
	$ c.	$ c.	%
1913	48,745.88	8,352.06	17·13
1914	49,095.97	6,934.21	14·12
1915	49,404.56	6,871.67	13·19
1916	47,325.89	7,034.67	14·86
1917	51,253.82	7,294.49	14·23
1918	51,967.08	6,282.45	12·09
1919	51,457.65	8,307.77	16·16
1920	55,975.49	8,547.76	15·27
1921	61,428.11	10,657.86	17·35
1922	71,223.47	12,464.32	17·50